

## CLAIMS

1. A spread spectrum receiver for receiving multiple spread spectrum signals each traveling upon a different propagation path and each having a resultant arrival time difference with respect to one another, said spread spectrum receiver comprising:

first demodulator means for demodulating a first spread spectrum signal of said multiple spread spectrum signals in accordance with a first arrival time; and

second demodulator means for demodulating a second spread spectrum signal of said multiple spread spectrum signals in accordance with a fixed time interval difference with respect to said first arrival time.

2. The spread spectrum receiver of Claim 1 wherein said first demodulator comprises:

pseudorandom noise descrambling means for descrambling said first spread spectrum signal in accordance with a pseudorandom noise sequence;

phase adjustment means for extracting a pilot signal from said pseudorandom noise descrambled signal and multiplying said pseudorandom noise descrambled signal with said pilot signal; and

dechannelization means for multiplying said phase adjusted signal by an orthogonal channel sequence.

3. The spread spectrum receiver of Claim 2 further comprising Walsh sequence generator means for generating said orthogonal channel sequence and wherein said second dechannelization means further comprises:

delay element for receiving said orthogonal channel sequence and for delaying said orthogonal channel sequence by said fixed time interval to provide said second orthogonal channel sequence.

4. The spread spectrum receiver of Claim 2 wherein said phase adjustment means comprises:

pilot filter for extracting said pilot signal from said first spread spectrum signal;  
and

complex conjugate multiplier means for receiving said first spread spectrum signal and said extracted pilot signal and for multiplying said first spread spectrum with said extracted pilot signal.

5. The spread spectrum receiver of Claim 4 wherein said pilot filter extracts said pilot signal in accordance with an orthogonal pilot sequence.

6. The spread spectrum receiver of Claim 1 further comprising a combiner means for receiving said first demodulated spread spectrum signal and said second demodulated spread spectrum signal and for combining said first demodulated spread spectrum signal and said second demodulated spread spectrum signal to provide an improved estimate of said spread spectrum signal.

7. The spread spectrum receiver of Claim 1 further comprising switching means for providing said first spread spectrum signal to said first demodulator means and for switching after said fixed time interval to provide said second spread spectrum signal to said second demodulator means.

8. A method for receiving multiple spread spectrum signals each traveling upon a different propagation path and each having a resultant arrival time difference with respect to one another, said method comprising the steps of:

demodulating a first spread spectrum signal of said multiple spread spectrum signals in accordance with a first arrival time; and

demodulating a second spread spectrum signal of said multiple spread spectrum signals in accordance with a fixed time interval difference with respect to said first arrival time.

9. The method of Claim 8 wherein said step of demodulating said first spread spectrum signal comprises the steps of:

descrambling said first spread spectrum signal in accordance with a pseudorandom noise sequence;

extracting a pilot signal from said pseudorandom noise descrambled signal;

multiplying said pseudorandom noise descrambled signal with said pilot signal;

and

multiplying said phase adjusted signal by an orthogonal channel sequence.

10. The method of Claim 9 further comprising the steps of:  
generating said orthogonal channel sequence; and  
delaying said orthogonal channel sequence by said fixed time interval to provide said second orthogonal channel sequence.

11. The method of Claim 8 further comprising the step of combining said first demodulated spread spectrum signal and said second demodulated spread spectrum signal to provide an improved estimate of said spread spectrum signal.

12. The method of Claim 8 further comprising the steps of:  
first switching to provide said first spread spectrum signal; and  
second switching after said fixed time interval to provide said second spread spectrum signal.

13. An apparatus for receiving multiple spread spectrum signals each traveling upon a different propagation path and each having a resultant arrival time difference with respect to one another, said apparatus comprising:

means for demodulating a first spread spectrum signal of said multiple spread spectrum signals in accordance with a first arrival time; and

means for demodulating a second spread spectrum signal of said multiple spread spectrum signals in accordance with a fixed time interval difference with respect to said first arrival time.

14. The apparatus of Claim 13 wherein said step of demodulating said first spread spectrum signal comprises:

means for descrambling said first spread spectrum signal in accordance with a pseudorandom noise sequence;

means for extracting a pilot signal from said pseudorandom noise descrambled signal;

means for multiplying said pseudorandom noise descrambled signal with said pilot signal; and

means for multiplying said phase adjusted signal by an orthogonal channel sequence.

15. An apparatus for receiving multiple spread spectrum signals each traveling upon a different propagation path and each having a resultant arrival time difference with respect to one another, said apparatus comprising:

processing unit adapted for implementing computer-readable instructions and  
a memory storage device adapted for storing:

a first set of computer-readable instructions for demodulating a first spread spectrum signal of said multiple spread spectrum signals in accordance with a first arrival time; and

a second set of computer-readable instructions for demodulating a second spread spectrum signal of said multiple spread spectrum signals in accordance with a fixed time interval difference with respect to said first arrival time.